COLLEGE OF NATURAL RESOURCES AND ENVIRONMENT
Department of Forest Resources and Environmental Conservation
Bachelor of Science in Forestry and Wildlife
Major: Natural Resources Conservation
Option: Conservation and Recreation Management
For students graduating in calendar year 2015

Name: ___________________________ Student ID: _______________________
Advisor: _________________________ Expected graduation date: __________

Minimum credit hours required for graduation is 120.

Major Core Degree Requirements (21 credits)
Forest Science (9 credits)
- FOR 2214 Introduction to Land and Field Measurements (3 credits)
- FOR 2314 Forest Biology and Dendrology (2 credits)
- FOR 2224 Dendrology Lab (1 credit)
- FOR 3364 Forest Ecology & Sustainability (3 credits)
Environmental Economics (3 credits)
- FOR 4014 Natural Resources Economics (3 credits)
Policy (3 credits)
- FOR 4434 Forest Resource Policy (3 credits)
Oral Communication (3 credits)
- FOR 3524 Environmental Interpretation (3 credits)
Geospatial Analysis (3 credits – choose one)
- FOR 4114 Information Technologies for Natural Resource Management (3 credits)
- FOR 4214 Forest Photogrammetry (3 credits)
- GEOG 4084 Introduction to Geographic Information Systems (3 credits)

Option Requirements (11 credits)
- NR 1114 Introduction to Renewable Natural Resources (2 credits)
- FOR 3354 Urban Forestry and Arboriculture (3 credits)
- FOR 3544 Recreation Management (3 credits)
- FOR 3564 Recreation Planning (3 credits)

Restricted Electives (Minimum 37 credits – see accompanying lists)
- Natural Science Restricted Elective (4 credits)
- Environmental Science Restricted Elective (3 to 4 credits)
- Environmental Science Restricted Elective (3 to 4 credits)
- Environmental Science Restricted Elective (3 to 4 credits)
- Human Dimensions Restricted Elective (3 credits)
- Human Dimensions Restricted Elective (3 credits)
- Written Communications Restricted Elective (3 credits)
- Geography Restricted Elective (3 credits)
- Business Restricted Elective (3 credits)
- Tourism Restricted Elective (3 credits)
- Planning and Policy Restricted Elective (3 credits)
- Planning and Policy Restricted Elective (3 credits)
CLE Requirements (36 credit hours)

Area 1: Writing and Discourse (6 credit hours required)
- ENGL 1105 Freshman English (3 credits)
- ENGL 1106 Freshman English (3 credits)

Area 2: Ideas, Cultural Traditions, and Values (6 credit hours required)
- FOR 2554 Nature and American Values (3 credits)
- CLE Area 2 course: (3 credits)
  Suggested CLE Area 2 Courses
  ENGL 3534 Literature and Ecology
  UAP 4264 Environmental Ethics and Policy (pre-req: UAP 3344 or 3354)
  LAR 4034 Evolution of the American Landscape
  PHIL 2304 Global Ethics
  PHIL 3015 Political Theory
  HORT 3524 History of Landscape Architecture

Area 3: Society and Human Behavior (6 credit hours required)
- AAEC 1005 Economics of the Food & Fiber System or ECON 2005 Principles of Economics (3 credits)
- Select one course from the following list (3 credits):
  - SOC 1004 Introductory Sociology
  - SOC 1014 Introduction to Social Anthropology
  - SOC 2004 Social Organization and Social Problems
  - SOC 2024 Minority Group Relations
  - SOC 2304 Individual in Society
  - SOC 2504 Comparative Social Change
  - SOC 3004 Social Inequality
  - SOC 3204 Social Research Methods
  - PSYC 2004 Introduction to Psychology
  - COMM 1014 Introduction to Communication Studies

Area 4: Scientific Reasoning and Discovery (8 credit hours required)
- BIOL 1105 Principles of Biology (3 credits)
- BIOL 1115 Principles of Biology Lab (1 credits)
- BIOL 1106 Principles of Biology (3 credits)
- BIOL 1116 Principles of Biology Lab (1 credits)

Area 5: Quantitative and Symbolic Reasoning (6 credit hours required)
- MATH 1016 Elementary Calculus with Trigonometry I (3 credits)
- Statistics Restricted Elective (STAT 3604 or 3615 - 3 credits)

Area 6: Creativity and Aesthetic Experience (1 credit hour required)
- CLE Area 6 course: (1 credit)

Area 7: Critical Issues in a Global Context (3 credit hours required)
- FTW 2114 Principles of Fish & Wildlife (3 credits)
<table>
<thead>
<tr>
<th>Free Electives (15 credits)</th>
</tr>
</thead>
</table>

Natural Resource Conservation Restricted Electives (substitutions possible with approval)

**Natural Science Restricted Elective** (Choose 4 credits)
Select any four credits in CLE Area 4 other than those already on checksheet 4

<table>
<thead>
<tr>
<th>Written Communications Restricted Electives</th>
<th>(Choose 3 credits)</th>
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<tbody>
<tr>
<td>ENGL 3774 Business Writing</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3104 Professional Writing</td>
<td>3</td>
</tr>
<tr>
<td>AEE 3624 Communicating Agriculture in Writing</td>
<td>3</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Geography Restricted Electives</th>
<th>(Choose 3 credits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG 1004 Introduction to Human Geography</td>
<td>GEO 210</td>
</tr>
<tr>
<td>GEOG 1014 World Regions</td>
<td>GEO 220</td>
</tr>
<tr>
<td>GEOG 1104 Introduction to Physical Geography</td>
<td>GEO 200</td>
</tr>
<tr>
<td>GEOG 3104 Environmental Problems</td>
<td>3</td>
</tr>
<tr>
<td>GOEG 4044 Biogeography (pre-req.: BIOL 2804 OR GEOG 1104)</td>
<td>3</td>
</tr>
<tr>
<td>GEG 4204 Geography of Resources</td>
<td>3</td>
</tr>
<tr>
<td>FOR 2124 Forests, Society &amp; Climate</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Planning and Policy Restricted Electives</th>
<th>(Choose 6 credits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UAP 3354 Introduction to Environmental Policy and Planning</td>
<td>3</td>
</tr>
<tr>
<td>UAP 3014 Urban Policy and Planning (pre-req.: UAP 1024)</td>
<td>3</td>
</tr>
<tr>
<td>FOR 4454 Urban Forest Management and Policy</td>
<td>3</td>
</tr>
<tr>
<td>UAP 3344 Global Environmental Issues</td>
<td>3</td>
</tr>
<tr>
<td>UAP 4184 Community Involvement</td>
<td>3</td>
</tr>
<tr>
<td>UAP 4374 Land Use and Environment (pre-req.: UAP 3354)</td>
<td>3</td>
</tr>
<tr>
<td>LAR 3644 Land Analysis and Site Planning (pre-req.: LAR 1004)</td>
<td>3</td>
</tr>
<tr>
<td>AAEC 3314 Environmental Law</td>
<td>3</td>
</tr>
<tr>
<td>AAEC 4754 Real Estate Law</td>
<td>3</td>
</tr>
<tr>
<td>UAP 4344 Law of Critical Environmental Areas</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 1014 Introduction to United States Government and Politics</td>
<td>PLS 135</td>
</tr>
<tr>
<td>PSCI 1024 Introduction to Comparative Government and Politics</td>
<td>PLS 140</td>
</tr>
<tr>
<td>PSCI 2054 Introduction to World Politics (pre-req.: PSCI 1014 or 1024)</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 3214 Political Participation (pre-req.: PSCI 1014 or 1024)</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 3224 Public Opinion (pre-req.: PSCI 1014 or 1024)</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 3334 Judicial Process (pre-req.: PSCI 1014 or 1024)</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 3354 Constitutional Law: Structures and Relations (pre-req.: PSCI 1014)</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 3414 Public Administration (pre-req.: PSCI 1014 or 1024)</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 3424 State and Local Government (pre-req.: PSCI 1014 or 1024)</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 3554 Comparative Political Economy (pre-req.: PSCI 1014 or 1024)</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 3744 Public Policy Analysis (pre-req.: PSCI 1014 or 1024)</td>
<td>3</td>
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</tbody>
</table>
### Environmental Science Restricted Electives

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR 2004</td>
<td>Forest Ecosystems</td>
<td>3</td>
</tr>
<tr>
<td>FOR 2514</td>
<td>Wildland Fire Ecology and Management</td>
<td>3</td>
</tr>
<tr>
<td>FOR 3714</td>
<td>Forest Harvesting</td>
<td>3</td>
</tr>
<tr>
<td>FOR 4374</td>
<td>Forested Wetlands (pre-req: CSES 3114 or CSES 3134)</td>
<td>3</td>
</tr>
<tr>
<td>FOR 4334</td>
<td>Principles of Agroforestry</td>
<td>3</td>
</tr>
<tr>
<td>FOR 4354</td>
<td>Forest Soils and Hydrology (pre-req: FOR 3314 or instructor consent)</td>
<td>3</td>
</tr>
<tr>
<td>SBIO 2784</td>
<td>Global Forest Sustainability</td>
<td>3</td>
</tr>
<tr>
<td>FIW 2314</td>
<td>Wildlife Biology (pre-req: BIOL 2504 or 2704)</td>
<td>3</td>
</tr>
<tr>
<td>FIW 4314</td>
<td>Conservation Biology (pre-req: FIW 4214, 4414 or instructor’s consent)</td>
<td>4</td>
</tr>
<tr>
<td>FIW 4414</td>
<td>Population Dynamics and Estimation (pre-req: 4214 or instructor’s consent)</td>
<td>3</td>
</tr>
<tr>
<td>FIW 4424</td>
<td>Ichthyology (pre-req: BIOL 2504 or 2704)</td>
<td>4</td>
</tr>
<tr>
<td>FIW 4534</td>
<td>Ecology and Management of Wetland Systems</td>
<td>3</td>
</tr>
<tr>
<td>FIW 4614</td>
<td>Fish Ecology</td>
<td>3</td>
</tr>
<tr>
<td>FIW 4624</td>
<td>Marine Ecology (pre-req: BIOL 2804 or GEOS 3034)</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 2204</td>
<td>Plants and Civilization</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 2504</td>
<td>General Zoology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 2704</td>
<td>Evolutionary Biology (BIO 267)</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 2804</td>
<td>Ecology (BIO 270)</td>
<td>3</td>
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<tr>
<td>BIOL 4004</td>
<td>Freshwater Ecology (pre-req: BIOL 2804)</td>
<td>4</td>
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<tr>
<td>CSES 3134</td>
<td>Soils in the Landscape</td>
<td>3</td>
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<tr>
<td>CSES 3114</td>
<td>Soils (pre-req: CHEM 1036, 1046)</td>
<td>4</td>
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<tr>
<td>CSES 3444</td>
<td>World Crops and Cropping Systems</td>
<td>3</td>
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<tr>
<td>CSES 3604</td>
<td>Fundamentals of Environmental Science</td>
<td>3</td>
</tr>
<tr>
<td>ENSC 3604</td>
<td>Fundamentals of Environmental Science (more technical)</td>
<td>3</td>
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</tbody>
</table>

### Business Restricted Electives

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MGT 3304</td>
<td>Management Theory and Leadership Practice</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 3104</td>
<td>Marketing Management</td>
<td>3</td>
</tr>
<tr>
<td>AAEC 3454</td>
<td>Small Business Management</td>
<td>3</td>
</tr>
<tr>
<td>ACIS 2115</td>
<td>Principles of Accounting (AC 211 or 212 must take both)</td>
<td>3</td>
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</tbody>
</table>

### Statistics Restricted Electives

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT 3604</td>
<td>Statistics for Social Sciences</td>
<td>3</td>
</tr>
<tr>
<td>STAT 3615</td>
<td>Biological Statistics</td>
<td>3</td>
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</tbody>
</table>

### Tourism Restricted Electives

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>HTM 2454</td>
<td>Travel &amp; Tourism Management</td>
<td>3</td>
</tr>
<tr>
<td>HTM 2464</td>
<td>Introduction to Service</td>
<td>3</td>
</tr>
<tr>
<td>HTM 3454</td>
<td>Tourism Analysis</td>
<td>3</td>
</tr>
<tr>
<td>HTM 3484</td>
<td>Socio-Cultural Impacts of Tourism</td>
<td>3</td>
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</tbody>
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### Human Dimensions Restricted Electives

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIW 4464</td>
<td>Human Dimensions of Fish and Wildlife</td>
<td>3</td>
</tr>
<tr>
<td>FOR 3574</td>
<td>Environmental Education Service Learning</td>
<td>3</td>
</tr>
<tr>
<td>AAEC 3304</td>
<td>Rural and Regional Development</td>
<td>3</td>
</tr>
<tr>
<td>AAEC 3324</td>
<td>Environment and Sustainable Development</td>
<td>3</td>
</tr>
<tr>
<td>SBIO 3004</td>
<td>Sustainable Nature-Based Enterprises</td>
<td>3</td>
</tr>
<tr>
<td>COMM 3204</td>
<td>Multicultural Communication</td>
<td>3</td>
</tr>
<tr>
<td>SOC 3204</td>
<td>Social Research Methods</td>
<td>3</td>
</tr>
</tbody>
</table>
SOC 3504  Population Trends and Issues  3
ECON 3024  Economic Justice**  3
ECON 4704  Urban Economy**  3
ECON 4894  Law and Economics**  3

** Enrollment in these courses is restricted to majors during initial class registration. Students should request them during the drop-add period and will be admitted as space allows.

Geospatial Restricted Electives  (Choose 3 credits)
FOR 4114  Information Technology for Natural Resource Management  3
FOR 4214  Forest Photogrammetry  3
GEOG 4084  Introduction to Geographic Information Systems  3

NATURAL RESOURCES CONSERVATION NOTES

1. **Satisfactory Progress:** By the end of the semester in which the student has attempted 60 hours (including transfer, advanced placement, advanced standing, and credit by examination), "satisfactory progress" towards a B.S. degree in the College of Natural Resources will include the following minimum criteria:
   - Having an in-major and overall grade point average of at least 2.0
   - Passing at least 24 semester credits that apply to the Curriculum for Liberal Education (CLE)
   - Passing the following courses, or their equivalents: BIOL 1105, 1106 and 1115, 1116; MATH 1016

2. **Foreign Language Requirement:** A sequence of two (2) foreign language courses is required for graduation unless two (2) high school credits of the same foreign language or six (6) transfer credit hours of foreign language have been earned. These credits do not count toward graduation. See catalog section on "Graduation Requirements."

3. **Policy on Student Exchanges:** Studying overseas or at another U.S. university is a wonderful opportunity to enhance your education. However, planning for an exchange should begin at least 9 months prior to leaving. This will allow time to determine what substitutions, if any, will be allowed and time to arrange your schedule at Virginia Tech to ensure that all requirements for graduation are met.

4. **Major GPA Computation:** Includes all courses designated as FIW, FOR, GEOG, NR, and SBIO.

5. An in-major and overall GPA of 2.0 is required for graduation.